NEW ZEALAND RAILWAYS

Staff Bulletin

VOL. 6 NO. 2 GENERAL MANAGER'S OFFICE, WELLINGTON MAR. - APR. 1957

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FROM HERE AND THERE

AROUND THE RAILWAYS

BIG C.T.C. PROGRAMME

A long-term programme for the extension of C.T.C. in New Zealand was approved recently by Cabinet. Equipment already in use and in process of installation covers 270 route miles of line. The new programme now approved covers a further 290 miles of main line.

On the North Island main trunk railway, C.T.C. controlled from Te Kuiti is already in operation southward to Okahukura, 42 miles, near Taumarunui, and is being installed northward to Frankton, 41 miles. Automatic signalling, mainly on double line, is in use between Frankton and Auckland.

It is proposed to extend C.T.C. southward from Taumarunui to Marton, 135 miles, with control from Ohakune, the present train control centre 50 miles south of Taumarunui. This would supersede the obsolete two-position mechanical signalling and the tablet system now in use and due for replacement.

Another C.T.C. control centre located at Palmerston North would cover the sections of line from Marton to Levin, 57 miles, and from Palmerston North to Woodville, 17 miles, and the existing control panel at Wellington, at present used for the Tawa Flat - Paekakariki section, would be extended to cover the line northward to Levin. This would complete the equipment of New Zealand's busiest main line with modern signalling, and enable the line, with diesel-electric traction, to cope efficiently with increasing traffic.

Other sections on which C.T.C. is to be installed under the recently announced programme are Napier-Waipukurau, Tauranga - Mount Maunganui, and Addington-Rangiora.

"Apart from great improvements in train working," said the Minister of Railways (Mr J. K. McAlpine) when announcing the scheme, "it is estimated that there will be an annual saving in expenses of £21,000 after allowing for interest on the capital expenditure" ●

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TRAIN MEETS SEAL

A train from Bluff to Invercargill the other day met an unusual obstruction on the line in the form of a seal. The seal had apparently come up a nearby river or creek and was in a cutting near the Awarua radio station. The train stopped to allow the seal to take up station on the side of the line, and then carried on. Last glimpse passengers had of the animal was as he flopped his way along the line towards Bluff.—From the *Evening Star* (Dunedin) ●

NEW BREAKDOWN CRANES

FIVE new steam-powered, self-propelling railway cranes are being purchased for breakdown service and general maintenance work in the North Island.

Announcing that Cabinet had approved the expenditure, the Minister of Railways (Mr J. K. McAlpine) said recently that the new cranes would facilitate a more adequate dispersal of breakdown equipment to deal with emergencies, and would permit the withdrawal of several old cranes of limited capacity.

Mr McAlpine said that the largest of the five cranes would be capable of lifting a load of 40 tons, and would be similar to four 40-ton breakdown cranes obtained before the war. These cranes, which were specially designed for the New Zealand Railways, had given very good service and two were in use in each Island. The North Island 40-ton cranes were stationed at Auckland and Wellington respectively. It was proposed to base the new 40-ton crane at Frankton, where it would be strategically located to deal with breakdowns as well as construction and maintenance duties.

The other four cranes to be ordered would have a lifting capacity of 15 tons. They were intended to replace four 7-ton cranes, built between 48 and 57 years ago and no longer suitable for many classes of work ●

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PIPERS "INVADE" RAILWAY STATION

PASSENGERS on the 6.10 p.m. express from Invercargill on 10 March had little opportunity to sleep during the train's stop at Dunedin, for twenty visiting pipers and drummers from northern centres "invaded" the railway station to give fellow bandsmen a boisterous send-off.

Members of three or four bands in the city for the C Grade Pipe Band championships marched down Lower High street in a heavy drizzle to give a ten minute performance on the railway platform.

They were watched by forty or fifty people at the station to bid farewell to friends, and as they marched the length of the platform playing a Scottish air, ten or twelve "middle-aged" enthusiasts skipped and danced behind them.

Their efforts brought dozens of faces to carriage windows – most of them smiling, but some not so appreciative.—From the *Otago Daily Times* ●

COVER: Since first introduced in 1949, diesel-mechanical shunting locomotives have become a familiar sight on the New Zealand Railways. Here "Ds" 214 (204 b.h.p., Drewry, 1953) is seen shunting at Lyttelton.

N.Z.R. Publicity Photograph

TRANSPORT OF LIVESTOCK

Transit Tetany Can Be Avoided

OFTEN applicants for licences to transport livestock by road are supported by witnesses who testify that rail transport is responsible for loss of condition, if not the death, of many animals consigned to saleyards or freezing works.

Many reasons are given. It is said that injury or death is caused by defective or unsuitable wagons, and by rough shunting or poor handling of trains; that loss of condition results from excessive travelling time; or that animals are inherently prone to travel sickness.

On occasions some of these complaints are justified, but for the most part, criticism of railway facilities for the transport of livestock, in an endeavour to praise the virtues of road transport, is based on shaky foundations.

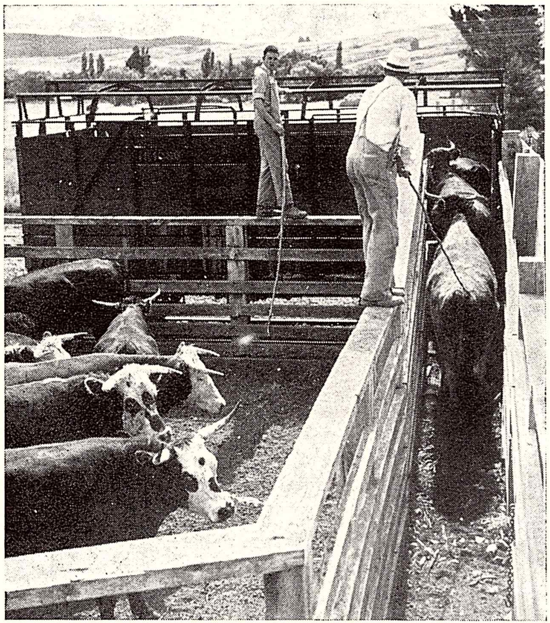
Nevertheless, criticism should be viewed with concern by railwaymen, for the transport of livestock is big business and each year produces for the Department about £1¾ million in revenue. Animals are a particularly perishable and valuable class of freight, and every railwayman concerned with their movement should do his utmost to ensure that the service offered by the Railways Department cannot be faulted.

It is interesting to learn that the problem of transit tetany (popularly called "travel sickness"), which is a frequent cause of heavy stock losses, is not confined to rail transport, and can largely be overcome by correct handling and feeding before stock is consigned. According to the Department of Agriculture Bulletin No. 323, *Stock Losses from Transit Tetany* (by W. D. Ross, Veterinarian), trucking by road can produce the same effects, as also can the transport of cattle by ship.

Transit tetany is caused by excessive drain on the nerve-steadying calcium in the body of an animal. The trouble originates when stock in prime condition are

Barking dogs, shouting men, and strange noises excite animals about to be loaded for transport and hasten the drain on the nerve-steadying calcium in their systems. Noise, together with lush feed before trucking, provides ideal conditions for the development of travel sickness and consequent loss of condition.

N.Z.R. Publicity Photograph



Cattle hardened on dry feed and loaded without undue excitement will travel better and be less liable to develop transit tetany.

N.Z.R. Publicity Photograph

taken from lush pasture and dispatched on a long journey without food or water. The digestive system of the animal is upset by mustering, droving, dogging, yarding, and transport, and the subsequent starvation during the journey brings about a condition of paralysis similar to that of tetanus; hence the name transit tetany. Pregnant cattle are particularly susceptible, but fat cattle, horses, sheep, and pigs may also be affected.

Where a lengthy journey is involved, the owner or consignor of the stock should make arrangements for untrucking, feeding, and watering during transit. If the owner or consignor fails to make such arrangements, or if the livestock is delayed as a result of slips, washouts, or derailments, the railways staff should see that the animals are watered and fed. Where the delay is likely to be prolonged, arrangements should be made for the stock to be off-loaded.

Drovers, also, can contribute by handling stock quietly, with the minimum of noise and dogging, and if every effort is made to load the animals without undue excitement, much will have been done to minimise the upset caused by new and strange surroundings.

Railwaymen, in turn, should exert every effort to ensure that livestock wagons are handled with more than usual care. Excessive shunting should be avoided, and livestock wagons given priority over ordinary freight to reduce the length of time in transit.

Defective or dirty wagons should never be supplied for loading. The various classes of railway wagons used for the conveyance of livestock have been specially designed for their purpose, and improvements have been effected over a period of many years. If all other factors are equal, rail transport should be particularly suited to the movement of livestock, and should be more efficient than the swaying, bumping motor trucks which often lurch over rough roads in competition with the trains.

That it is possible for valuable animals to be carried long distances by rail without injury was proved last year, when 452 horses, cattle, sheep, and pigs – all highly-valued stud animals – were transported to Invercargill for the Royal Agricultural Show. These animals came from points as far afield as Te Awamutu and Napier, yet all reached their destination without injury or loss of condition.

Railwaymen concerned with the transport of livestock should make themselves thoroughly conversant with the provisions of Regulation 114 of the General Scale of Charges, and with Instructions Nos. 102 and 125 of the Traffic Code. These regulations and instructions are there for the guidance of our staff, and adherence to them, together with a little applied common sense, will go a long way toward keeping this valuable traffic off the highways.

£1¾ million annually is worthwhile revenue and represents a sizeable portion of the annual wages bill of the Railways Department. Railwaymen who do their best to keep this traffic on the rail, and who give good, claim-free service, are only safeguarding their own bread and butter ●

CONTRIBUTIONS to *Staff Bulletin*

MEMBERS of the railway service are invited to contribute short articles and paragraphs for publication in the *Staff Bulletin*. Contributions dealing with transport matters such as competition, public relations, improved "sales" technique, loading methods, efficient handling of various commodities, employee accident prevention, staff training, and railway affairs generally, will be welcomed. Brief notes concerning the achievements of railway men and women in the fields of civic affairs, literature, art, youth movements, sport, etc., are also sought.

Photographs of railway interest will also be appreciated. Kindly note, however, that photographs should be preferably of half-plate size (6½ in. by 4¼ in.), printed on glossy paper.

Owing to limitations of space it may not be possible to publish all contributions submitted, but every effort will be made to do so.

All contributions should be addressed to the Publicity and Advertising Manager, New Zealand Railways, Private Bag, Wellington.

"The logic of passengers on trains is simply this: railroading is inherently a volume business; the more traffic – passenger or otherwise – that meets its own direct costs and then some, the more cash there will be left over to meet the necessarily high and fixed overhead of the physical plant – tracks, signals, terminals, taxes, and so forth . . ."—From an editorial in *Trains* (U.S.A.), October 1956.

REPLY TO A CRITIC

North Island Main Trunk Railway Defended

A contributor to the *Weekly News* last December referred to the North Island Main Trunk Railway in somewhat derogatory terms, no doubt in ignorance of the value of this lifeline of the North Island. Here is the text of a letter from the General Manager to the editor of the *Weekly News,* designed to set the record straight:

"I wish to take issue with a contributor to your paper dated December 5 (Max White: *A Contrast in Land Use*). He wrote that the Main Trunk Railway along the Waimarino Plains 'is, I grant you, a wretched narrow-gauge single-track affair'.

"Perhaps one should not be unduly sensitive to such remarks. The pity of it is, however, that too many people gather the wrong impression altogether. My dictionary defines 'wretched' with several uncomplimentary references ranging from 'very miserable' through 'worthless' to 'despicable' or 'contemptible'.

"There is nothing 'wretched' about the North Island Main Trunk Railway. It is the busiest main line in New Zealand. Each weekday ten heavily loaded goods trains and two express trains pass over it in each direction. The goods trains carry some 3,000 tons of goods (coal, timber, cement, petrol, merchandise of all sorts) over the line every working day. And this traffic is being moved at a speed and with an economy that compares favourably with any railway traversing a similar type of country.

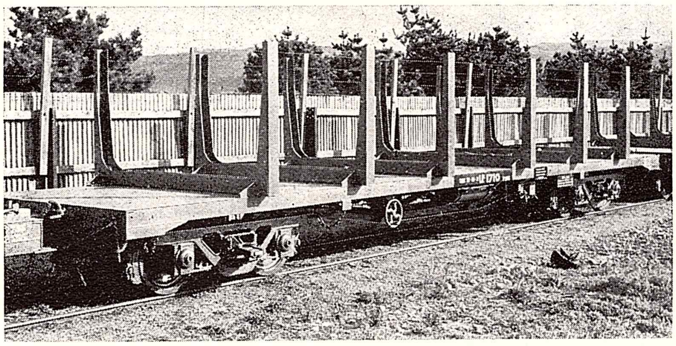
"By implication, Mr White suggests that 'narrow gauge' and 'single track' are features that any decent railway should abhor. But the mere fact that a railway has a track gauge which is narrower than the standard gauge used in Europe and North America need not affect its capacity to move traffic expeditiously and economically. Hundreds of the world's largest railway systems, with a total route milage of more than 130,000, are laid to various gauges (width between the rails) of 3 ft. 6 in., as in New Zealand, down to 3 ft. Some of these so-called 'narrow-gauge' railways operate larger locomotives and heavier trains than any in Britain or, indeed, than any commonly found on the standard-gauge railways of Europe. The Japanese National Railways, using the same gauge as New Zealand, handle a heavier passenger traffic than any other railway in the world.

"Then there is this idea that a single-track railway is something to be despised. But most of the world's railways outside of the thickly populated and heavily industrialised countries are single track. Traffic has to be very heavy before more than one track is necessary. How many of the great transcontinental railways across the Rockies in North America can boast more than one track? Very few.

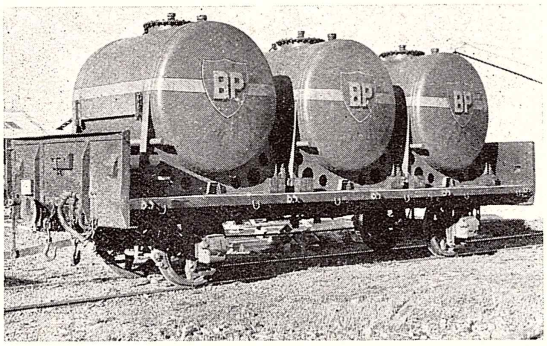
"As Mr White suggests that people should pause before criticising the Bulls - Te Kuiti main highway, I suggest that he should pause before criticising, even by implication, the Main Trunk Railway. We have no apologies to make for it." ●

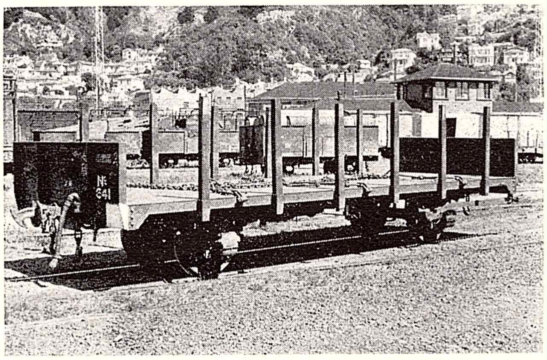
ABOVE: **Two "Da" class locomotives head southward from Taumarunui with No. 199 "through" goods train from Auckland to Wellington. Since May last year these powerful diesel locomotives have handled practically all freight traffic between Frankton and Palmerston North.**

N.Z.R. Publicity Photograph



New Wagons



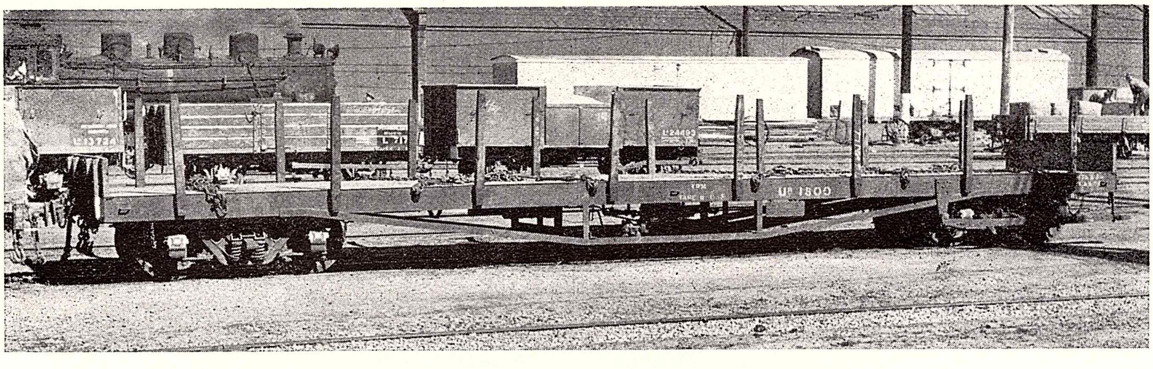


A realistic approach to the problem of carrying special traffic or difficult-to-handle loads is revealed by new types of wagons now in service on the New Zealand Railways.

Of more than usual interest are the 100 "UL" wagons built for carrying pulp logs on the new Murupara line. These 40 ft. all-steel vehicles are equipped with automatic couplers, a new design of roller bearing bogie, and special load-compensating brakes. Another new type, the "Mcp", is a four-wheeled tank wagon operating in the Canterbury district. It has three portable fuel-oil tanks which can be easily transferred to motor trucks at intermediate destinations. A new extra-long four-wheeler is the "Nc", designed for flat-loading of timber. The two prototype wagons have been very favourably received by the timber industry. An "Nc" can be loaded or unloaded in less than two-thirds the time taken for an "Lc". Yet another prototype is the "Ur", at present in service in the South Island. This is a 43 ft. flat-top fitted with a new type of bogie. One hundred and fifty "Ur" wagons are to be built in N.Z.R. workshops ●

LEFT, FROM TOP: The "UL" was designed to carry 26-ton "bundles" of pulp logs at 40 m.p.h. ★ A feature of the "Mcp" is its three portable tanks, each holding 600 gallons ★ Speedier loading and unloading of sawn timber is possible with the new "Nc" ★ The "Ur" wagon can carry standard 42 ft. rails without overhang, and thus does not need a "runner".

N.Z.R. Publicity Photographs



REALISM IN AMBULANCE COMPETITIONS

OF the many and varied spare-time activities undertaken by railwaymen, membership of the St. John's Ambulance Brigade is, without doubt, one of the most worthy. Many a man injured in the course of his daily work owes much to the prompt and efficient treatment given by a trained St. John's brigadesman.

Most of these highly trained first-aid workers belong to one or other of the Railway Divisions constituting the Combined Railway Ambulance Association. Compared with the total personnel strength of the New Zealand Railways their numbers are trifling, yet their contribution to the well-being of their fellow railwaymen is considerable.

Appreciation of their services is gratifying to the railway ambulance men, but appreciation alone is not sufficient if the good work is to be continued in future years. More members are wanted urgently; more hard-working enthusiasts prepared to forego some personal pleasures for the good of the community.

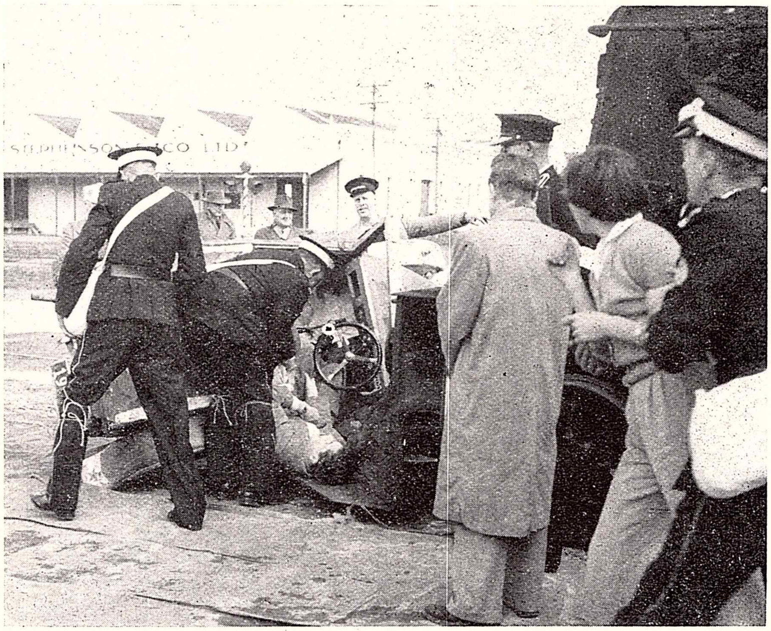
That some sacrifice of leisure time is necessary cannot be denied, for those men who are now privileged to wear the St. John's badge did not gain their skill and experience easily. Yet theirs is a satisfying task, because they know that their knowledge and assistance can relieve suffering, and in many instances may save lives.

If evidence is needed of the results produced by intensive training, it may be found at the competitions held annually by the Combined Railway Ambulance Association. At these competitions, teams representing the various Railway Divisions match their skill and initiative in dealing with faked accidents such as they might be called on to attend at any time. The judges are doctors, and a high standard is demanded of the competing teams.

A remarkable degree of realism is achieved, and the tests are as near to reality as it is possible to make them. An example of this realism was provided at the 1956 competitions, held at Invercargill.

The competing teams knew nothing of an "accident" until they were confronted by the wreckage of a small sports car which had been "struck" by a shunting engine. Two casualties had to be treated and an hysterical girl calmed; crowds had to be controlled; and the police and hospital informed – all within twenty minutes. Tape recordings were taken of the telephone calls for assistance, and these were played back to the judge after the teams had finished.

Other "accidents" demonstrated the ability of competitors to improvise bandages and equipment to cope with various circumstances, and their skill was further tested by the treatment of a nasty looking, but cleverly faked wound. Dr David Jennings, adjudicator for the principal event of the day, said he was quite pleased with the standard of the teams on a severe test, and two other doctors commented favourably on the standard of work in the tests which they judged. Expert opinions such as these reflect considerable credit on the men of the Railway Ambulance Divisions, and provide evidence of the soundness of their training ●

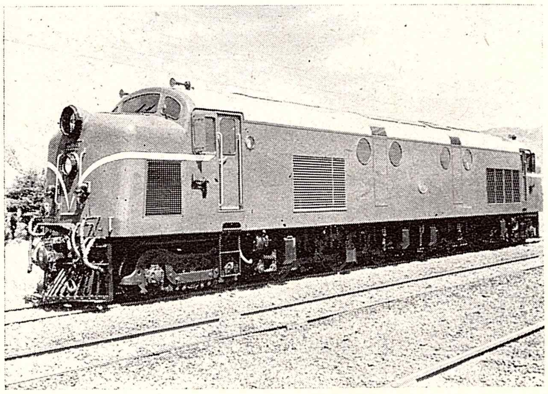


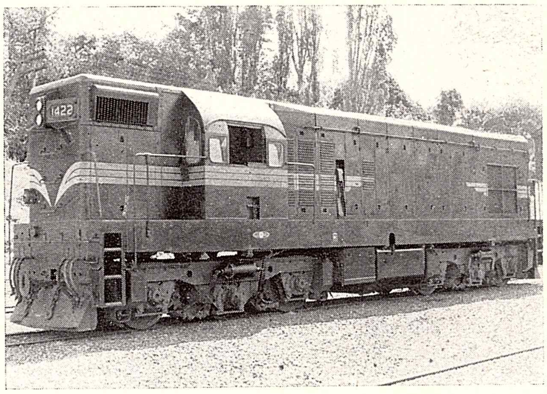
Railway ambulance men rush to the aid of a motorist badly injured in a level crossing accident. This realistic photograph depicts one of the exercises at the 1956 Railway Ambulance Competitions, held at Invercargill.

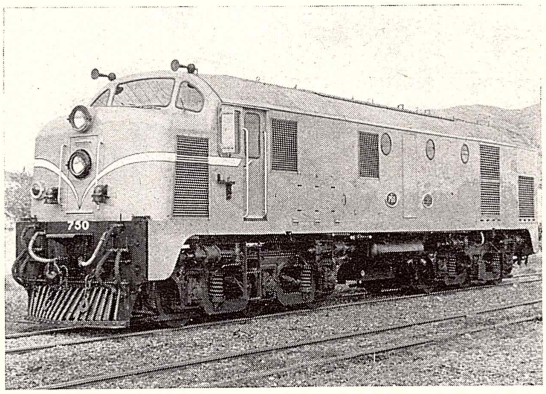
*Photograph:
Courtesy Hazledine's Studio Ltd.*

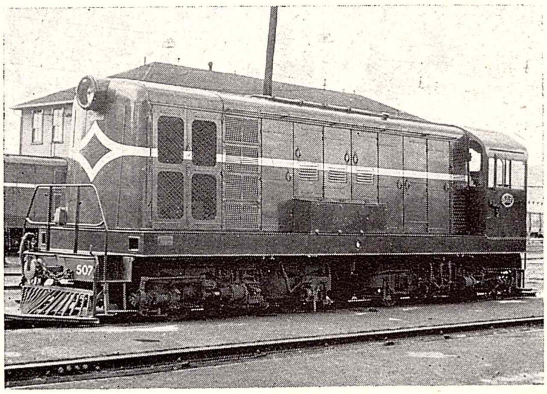
KNOW YOU

Large Numbers of Diesel Lo









DO you know the difference between a "Dsa" and a "Dsb" locomotive, or between a "De" and a "Da"? Now that half of the railway goods traffic in the North Island is hauled by diesel locomotives, together with a sizeable share of the traffic in Otago, you should be able to recognise the different types and classes. This article therefore is designed to help you as a ready reference; the captions to the "identification parade" of illustrations give class, type (or wheel arrangement), rated horsepower of the diesel engine, weight, supplier (abbreviated names), and the year first introduced.

One of the most spectacular developments on the railways of the world in recent years has been the rapid changeover to diesel traction on many systems in nearly all countries. In the United States, particularly, the coal-fired steam locomotive has almost disappeared from the major railways. Everywhere the disappearance of the steam locomotive is lamented by the romantically inclined, but the grim fact must be faced that railways cannot be run on sentiment alone.

In New Zealand, too, the transition from steam to diesel traction has been proceeding steadily for some five years. At first, the emphasis was on relatively small diesel shunting locomotives, but in 1952 the first diesel-electric locomotives in New Zealand were introduced into main-line service. The changeover here has not been quite as rapid as in some other places, but 97 diesel-electric and 80 diesel-mechanical locomotives were in service by March 1957. Most are allocated to the North Island, where steam locomotive operating costs are higher, traffic is heavier, and the scope for economy consequently is greater. Over the whole system, diesel locomotives are now moving 35 to 40 per cent of the goods traffic, and a share of the passenger traffic, and are also undertaking a sizeable share of the yard shunting. In the North Island, a good half of the goods traffic is diesel-hauled.

In these circumstances, it came as a surprise to a North Islander recently to meet an experienced railwayman from the west coast of the South Island who had not yet seen a diesel-electric locomotive. During our friend's visit to northern climes, however, the omission was soon put right, and he was duly impressed!

The purpose of this article, therefore, is to provide New Zealand railwaymen in all parts of the country with a ready

LEFT, FROM TOP:

Class "Df"; 2-Co-Co-2; 1,500 h.p.; 108 tons; English Electric; 1954.

Class "Da"; A1A-A1A; 1,425 h.p.; 78 tons; General Motors; 1955.

Classes "Dg" and "Dh"; A1A-A1A; 750 h.p.; 69 tons; English Electric; 1955-56.

Class "De"; Bo-Bo; 660 h.p.; 51 tons; English Electric; 1952.

N.Z.R. Publicity Photographs

R DIESELS!

comotives Now in Service

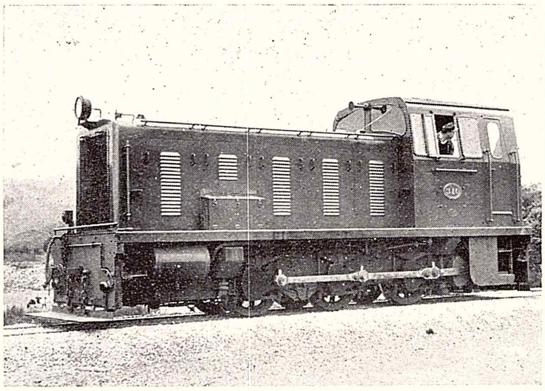
reference to the types and classes of diesel locomotives now in use. The "type" of a locomotive refers to its wheel arrangement; "class" is an arbitrary designation used by each railway administration to distinguish different designs. There may thus be several classes of one type on one system.

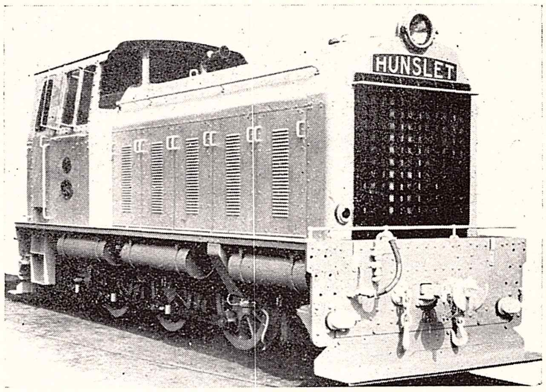
In denoting "type", the original system evolved for steam locomotives (the "Whyte notation") is unsuitable for diesels and electrics, and a different form is therefore now in universal use, in which letters are used for driving axles and numbers for carrying axles. In this system, "A" stands for one driving axle, "B" for two coupled driving axles, "C" for three, and "D" for four. When, however, the driving axles are arranged in groups with each axle individually driven, a suffix "o" is added after the appropriate letter for each group. A hyphen is used to separate the wheel groups, such as bogies, but a + sign sometimes replaces the hyphen when an articulated joint links the wheel groups together.

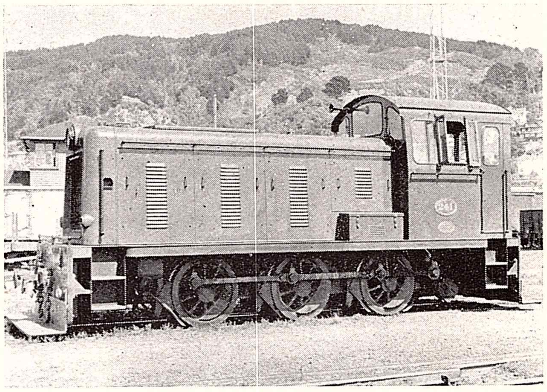
In the case of shunting locomotives having a small number of driving axles only, it is customary to retain the Whyte notation. They are described as 0-4-0 or 0-6-0 instead of type B or type C. All the diesel shunting locomotives of classes "Ds", "Dsa", and "Dsb" are therefore described as of the 0-6-0 type.

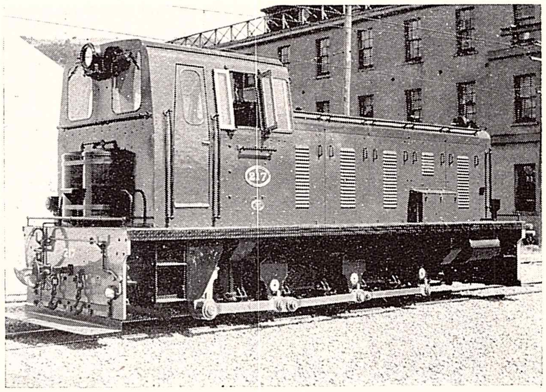
Types of diesel-electric locomotives in use in New Zealand re Bo-Bo, with two groups of two axles, each axle being ndividually driven by a separate motor; A1A-A1A, in which he centre axle of each three-axle group is provided to help listribute the weight of the locomotive; and 2-Co-Co-2, in vhich there are two-axle leading and trailing bogies and six notored axles in two groups of three.

Mention of diesel-electric and diesel-mechanical locomotives nay lead some readers to wonder why the distinction. The lifference is in the method of transmission of the power from he diesel engine to the wheels. In the smaller locomotives, up o about 300 horsepower, mechanical transmission through a earbox is practicable. For the transmission of higher powers, rom about 500 horsepower upwards, another method is essenial. The one in most common use is to arrange the diesel ngine to drive a generator for supplying direct current to lectric traction motors which usually are mounted on the xles that they drive. *(Continued on next page.)*





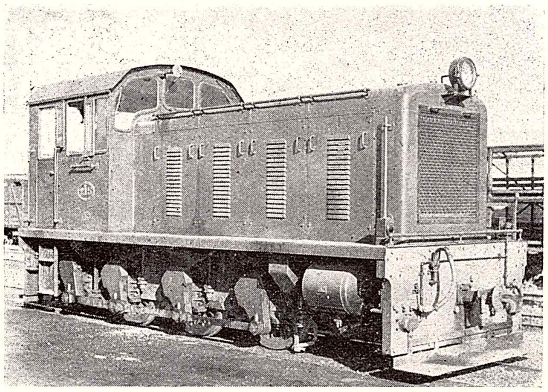


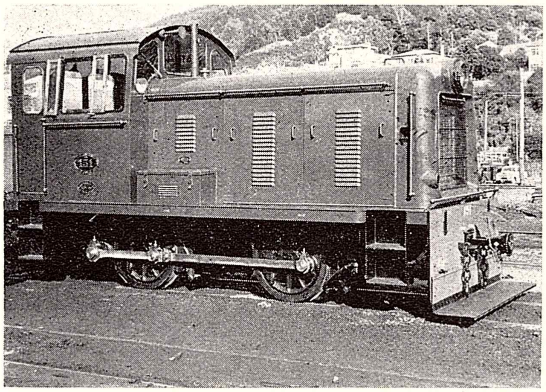


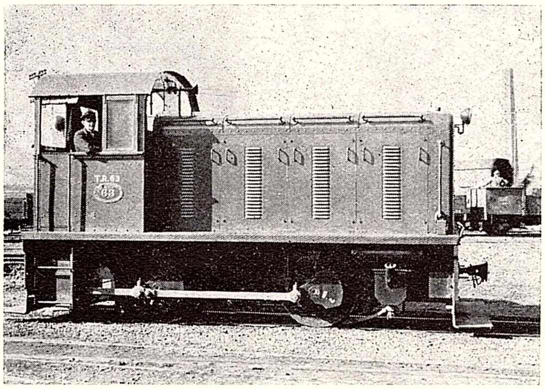
RIGHT, FROM TOP:

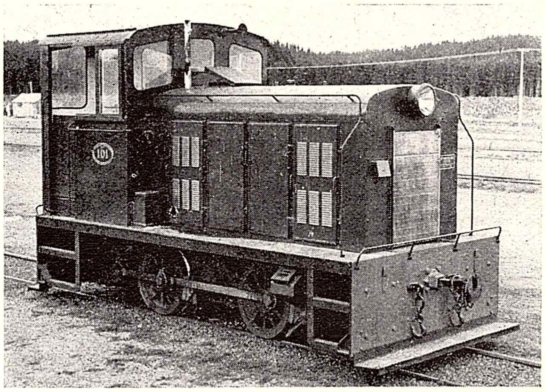
Class "Dsb"; 0-6-0; 260 h.p.; 37½ tons; Drewry; 1954.
Class "Dsa"; 0-6-0; 250 h.p.; 30 tons; Hunslet; 1954.
Class "Dsa"; 0-6-0; 240 h.p.; 30 tons; Bagnall; 1956.
Class "Dsa"; 0-6-0; 204 h.p.; 30 tons; Drewry; 1953.

N.Z.R. Publicity Photographs









The diesel engine itself is of the compression-ignition type of internal combustion engine. In the common petrol engine, the fuel is burned inside the cylinders and power is developed by the ignition of inflammable vapour by means of an electric spark. This produces a rapid expansion which drives the piston. In the diesel engine, the heat needed to ignite the fuel is produced by compression of air in the cylinder by the piston itself.

Although the invention of the diesel engine dates back to 1892, when Dr Rudolf Diesel, a German engineer, patented his idea, it was not until the 1920's that it was sufficiently developed for general railway purposes. At first the diesel engine was adapted predominantly for passenger railcars. Then, from 1934 onwards, there came an increasingly rapid development of the diesel-electric locomotive for long-distance, high-speed passenger service, and of smaller diesel locomotives for round-the-clock shunting services. From 1945, diesel locomotives of all sizes, types, and shapes, for all classes of service, have been introduced in large numbers in nearly all countries.

What is the great attraction of the diesel locomotive that has caused this revolution? Perhaps the biggest reason is the saving offered in fuel costs in so many places. Then there is the advantage of high availability, and the possibility of keeping diesels hard at work for long periods of time. The possibility of coupling several locomotives together, all under the control of one crew, is attractive, and the greater cleanliness associated with diesel traction gives improved working conditions, thus helping to attract staff to railway service.

The initial cost of diesel locomotives is high, and expensive maintenance facilities are essential, but these factors are more than offset by the increased milage they can run each year (so that fewer locomotives are needed to handle the same volume of traffic), and by savings in fuel and other costs. The cost of haulage of locomotive fuel to depots is also reduced, and coal dumps and watering facilities can be dispensed with.

The financial year which has just concluded, April 1956 to March 1957, was the first during which a substantial part of our traffic was hauled by diesel-electric locomotives. Over the whole year, more than 32 per cent of the goods and mixed train ton-milage was moved by diesel traction. All indications point to the final cost figures for the year giving a graphic illustration of the value of diesels in New Zealand railway service ●

LEFT, FROM TOP:

Class "Ds"; 0-6-0; 204 h.p.; 25 tons; Drewry; 1949.

Class "Tr"; 0-4-0; 153 h.p.; 20 tons; Bagnall; 1957.

Class "Tr"; 0-4-0; 153 h.p.; 20 tons; Drewry; 1950.

Class "Tr"; 0-4-0; 107 h.p.; 15 tons; Price; 1956.

N.Z.R. Publicity Photographs

SCHOOL FOR LOCOMOTIVE TRAINEES

Successful Experiment at Taumarunui

FROM the very inception of railways in this country, until recently, the work of a newly appointed locomotive cleaner followed much the same pattern. A youth, probably attracted to a railway career by visions of himself at the throttle of a mighty locomotive, would leave home to follow his chosen vocation. He would report to a locomotive depot, often far from home; go through the usual formalities of entry into the service; and be assigned to routine duties in a running shed with its strange new sights, sounds, and smells.

For many lads the road was not easy. The young cleaner was at every man's beck and call, although he invariably accepted that, together with the variety in hours of duty and the close and often unaccustomed association with coal, oil, and grease. But, unless he came from a "railway family", he entered the service without a background knowledge of his work and the part he was to play in New Zealand's greatest transport undertaking.

Although in the main the young cleaner was given sound advice by sympathetic and experienced men under whom he was placed, the traditional system of training had shortcomings, in that there was no set pattern of instruction, and often no one man to guide the youth's faltering footsteps during those critical first few weeks when his initial enthusiasm could so easily become blunted.

Of more recent years the locomotive trainee, as he is now designated, has had the advantage of comprehensive correspondence courses and personal tuition from travelling instructors. Nevertheless, it has been obvious for some time that even the enlightened modern variation of the traditional system of recruitment and initial training was not attracting and retaining many fine youths for a career in the locomotive service.

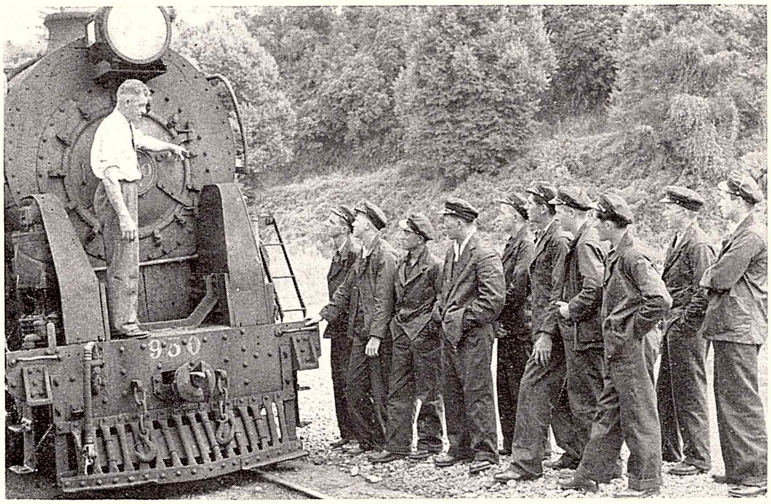
Toward the end of 1956 an entirely new method of recruiting, inducting, and training locomotive trainees was evolved by a committee consisting of officers of the Mechanical Branch, the Personnel Subdivision of the Staff Division, and the Enginedrivers', Firemen's, and Cleaners' Association. Features of this new system were (a) a concentrated advertising campaign in a specified area; (b) careful selection of the ten best applicants; (c) a tenday residential course of practical and theoretical training; and (d) posting of the trainees to locomotive depots near their homes.

It was decided to hold a trial course at Taumarunui, where accommodation was available in the Railways Department's hostel, and advertising was confined to the area bounded by New Plymouth, Taihape, Levin, and Dannevirke.

Display advertisements in the principal newspapers published within this area; radio announcements from the commercial radio stations at Palmerston North, Wanganui, and New Plymouth; pamphlets; a window display in one of the largest stores in Palmerston North; and personal contacts: these were the media used to attract interest in the new scheme.

Locomotive trainees at Taumarunui listen intently as the course director, Mr M. E. V. Harris, explains the smokebox of a steam locomotive.

N.Z.R. Publicity Photograph



Mr Harris explains the purpose of the clips around the smokebox door of a "Ka" class locomotive. His ten pupils were between the ages of seventeen and nineteen years, and the majority came from farms.

N.Z.R. Publicity Photograph

By the end of the campaign, twenty-three applications had been received, and after each applicant had been personally interviewed, the ten most promising young men were notified of their acceptance. Most of the unsuccessful applicants were offered employment as locomotive trainees under the normal conditions.

The course was arranged to run from Monday, 11 March, to Friday, 22 March, and the selected trainees arrived at Taumarunui late on the Sunday night or early on the Monday morning. They were met by the course director (Mr M. E. V. Harris, Locomotive Instructor), who settled them into their accommodation at the Department's hostel, Meredith House. During Monday morning they were given the opportunity to rest after their journeys, and were briefed by Mr Harris regarding hostel and course procedure.

At 2 p.m. on the Monday, the trainees assembled in the social hall and the course began. They were first introduced to the Chief Stationmaster, the Locomotive Supervisor, and the Chairman and Secretary of the Taumarunui Branch of the E.F.C.A. Each of these speakers welcomed the young men and offered assistance and advice for their success in the course and in the service.

As a preliminary to their studies, the trainees were then given an outline of the history of the New Zealand Railways, and the development of motive power, the organisation of the Mechanical Branch, and their career prospects. Other subjects covered in this address included rates of pay, correspondence course and examination requirements, the superannuation and sick benefit schemes, housing, membership of service organisations, and standards of conduct, reliability, and punctuality required of members of the locomotive service.

It is unlikely that any new appointees have ever been given such a thorough yet concise background knowledge to equip them for their railway career. That this induction session was well worth while was evident from the close interest with which the youths followed it, and the questions they asked at the end of the period.

The main training course began next morning. During the ensuing nine days the ten lads were given a good grounding of theoretical and practical instruction in the mechanical and signalling aspects of their

FUTURE ENGINEDRIVERS

***BACK ROW, FROM LEFT:* Mr M. E. V. Harris, Locomotive Staff Instructor; Locomotive Trainees G. H. Saunders; C. H. Olsen; E. J. Ross; S. N. Bowsher; J. C. Greenwood.**

***FRONT ROW:* J. H. P. Garlick; M. J. Morton; J. K. Poutama; R. Raumati; R. K. Taylor.**

N.Z.R. Publicity Photograph

duties during the first six months of service. They attended classes in the social hall; they clambered over locomotives in the depot and listened intently while Mr Harris explained the purpose of the various components; and even made short runs on goods trains in the Taumarunui area.

One would have thought that they would be glad to "call it a day" at five o'clock, but such was their keenness that on six evenings they requested Mr Harris to give them additional tuition. Mr Harris gladly complied with their wishes, and in addition to giving them further practical instruction in the engine shed, he screened training films in the social hall.

On the last day of the course the committee responsible for the trial scheme visited Taumarunui to observe the results. They were, to say the least, impressed with what they saw and heard. The trainees had obviously appreciated and benefited from the special instruction, and were confident of their ability to undertake their duties in locomotive depots. Indeed they looked forward eagerly to the experience.

Throughout the course the calibre of these ten hand-picked young men was shown by their exemplary conduct both on railway premises and in the town itself. This was specially commented on by a district officer of another Government Department, who had observed them while on a visit to Taumarunui.

Was the course worth while? The answer to this question can only be "Yes", although it will be some months yet before the full results can be assessed. At this stage, however, it is considered to have been encouragingly successful, because in a period of two weeks the ten trainees acquired knowledge that would have taken months to absorb under normal methods of induction and training.

Recommendations have been made for an extended trial of the new scheme, and it is most likely that it will be adopted for the recruitment, selection, and training of locomotive trainees during the next twelve months. If young men of the calibre selected for the pioneer course at Taumarunui can be obtained in other districts, it augurs well for the future of the locomotive service ●

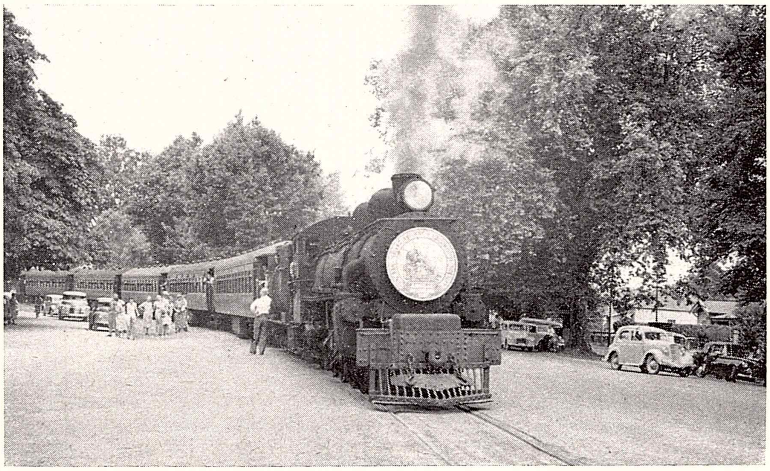
Special Train to Cambridge

ON 2 February, members of the New Zealand Railway and Locomotive Society attending their reunion at Auckland, together with their wives, families, and friends, chartered a special train for a run to Cambridge and back. Not that they were going to see or do anything special at Cambridge, mind you, or even spend much time there. But Cambridge, a pretty little town (population 3,411) is at the end of a normally "goods only" branch line over which many of these enthusiasts had not previously travelled.

Between Auckland and Frankton, the 111 passengers were treated to a fast schedule, and a new "Dg" class diesel-electric locomotive found the six-total load just to its liking. Over the 16 miles between Frankton and Cambridge, a veteran "Ab" steam locomotive was used.

Approaching Cambridge it seemed that the entire population had turned out to see and welcome the train, the first passenger train to traverse the 12-mile branch since the Queen visited New Zealand in 1953–54. The station yard and approach roads were crowded with motor cars, cyclists, and people. On the platform were Messrs A. P. Black, Deputy Mayor; T. W. Peek, Stationmaster; and the latter's father, B. L. Peek, who retired from the position of stationmaster at Auckland in 1932.

Photographers spent a busy thirty minutes, and then the train departed the way it had come. These people like riding trains. It is a liking very much to be encouraged ●



Special train chartered by the Auckland Branch of the New Zealand Railway and Locomotive Society pauses for photographers near Koutu Park, Cambridge. Between Frankton and Cambridge the train was hauled by Pacific-type locomotive "Ab" 662.

Photograph: W. W. Stewart

THE RAILWAY WORLD OF SPORT

BOWLING CHAMPIONSHIPS AT CHRISTCHURCH

NEITHER the setting nor the weather could have been bettered for the New Zealand Railway Bowling Championships, held at Christchurch on 2 March. The match was played on the United Bowling Club's beautiful greens at Hagley Park, and was watched with interest by a good muster of members of the Canterbury District Railway Bowling Association. Guests included the General Manager, Mr A. T. Gandell, and the Publicity and Advertising Manager, Mr A. T. Fussell.

The South Island was represented by an Oamaru team consisting of Messrs Dickie, Anderson, Laurie, and Lawrence (Skip), and the North Island defenders of the title were Messrs Parr, Hirini, Petersen, and McMillan (Skip), all representing Foxton.

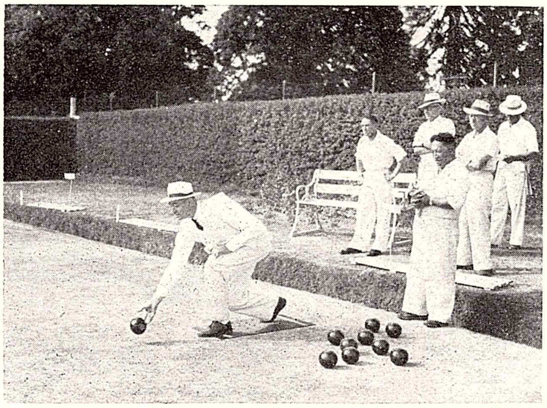
After an address of welcome from the President of the United Bowling Club, the match got under way. Up to the 14th end the South Island led 15–11, and the lead was maintained up to the 16th end with 17–15 in their favour. At this stage, however, luck deserted the South Island players, and with only one setback the North Island team forged ahead, building up points to finish on the 24th end with a match-winning score of 29–19.

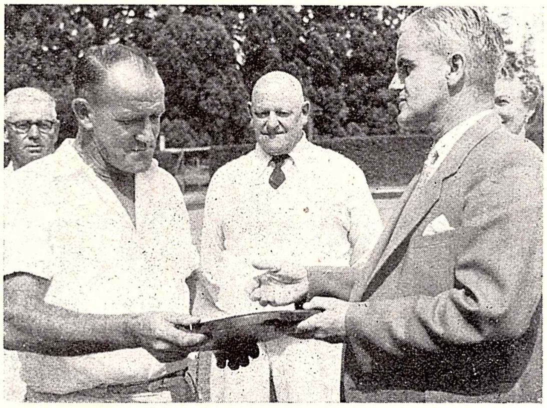
Congratulations are extended to Don McMillan and his Foxton team on their very fine performance. This is the second time in succession that they have won the Lusty Shield for the North Island. ●

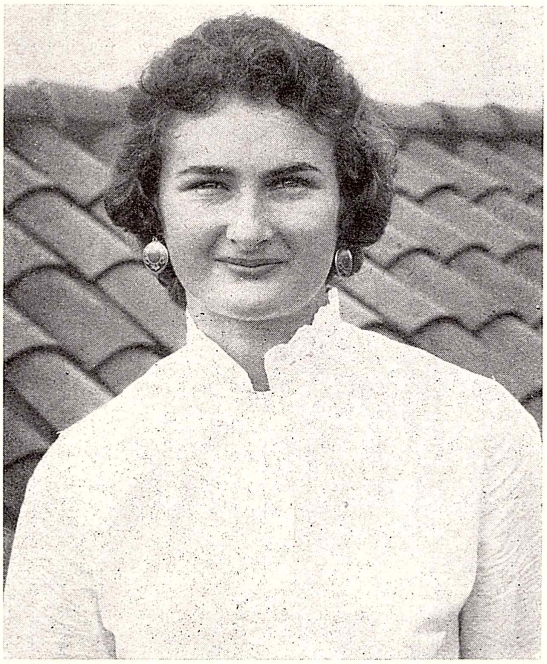
***BELOW, LEFT*: Anderson, the South Island No. 2, delivers a bowl under the watchful eye of his opposite number, J. Hirini.**

***BELOW, RIGHT*: The General Manager, Mr Gandell, presents the North Island skip, D. McMillan, with the Lusty Shield.**

N.Z.R. Publicity Photographs







RAILWAY SWIMMER SCORES WELL

IN the 1957 Public Service Swimming Championships held at Thorndon Baths on 21 February, Miss J. Rowse (above), of the Chief Civil Engineer's office, was successful in gaining second highest women's aggregate points. Led by Mr S. Luke of Hutt Workshops, the railway team comprised nine members of the Way and Works and Workshops branches. It was the smallest team competing. The championship was won by the Post and Telegraph team.

OVERSEAS RAILWAYS

(6) WESTERN AUSTRALIA

CONSIDER a railway system with approximately half the volume of traffic carried by New Zealand Railways, spread that traffic over a route milage of more than 4,000 supported by a population of less than 700,000 people, and you have a broad picture of the characteristics of the Western Australian Government Railways. The major problem facing this system's administrative officers is that of finding money to maintain hundreds of miles of little-used lines which they are obliged to keep open.

In its 1956 Report, the WAGR Commission said: "Unless the branch lines can be justified on economic grounds – and many of them cannot – the Commission sees no point in dissipating its resources on such an attenuated system: rather does it urge that the system be contracted to enable that which would remain to be brought up to a proper standard and so form the backbone of a State transport organisation that would be able to meet the demands made on it with efficiency and economy." The Commission has stated that substantial benefit can accrue from a major contraction of the present system to about 2,500 route miles.

Notwithstanding these financial problems, progress has been made in recent years with modernisation of motive power and rolling stock. Many new steam and diesel locomotives and diesel railcars have been placed in service. Goods wagon stocks have also been improved, but shortage of funds has prevented the replacement of overage passenger vehicles. The introduction of diesel traction has brought substantial improvement to Perth suburban and some main-line passenger services.

The following information is corrected to 30 June 1956.

EXTENT OF THE SYSTEM

Route Milage Worked: 4,085 miles of 3 ft. 6 in. gauge line. (NOTE: 34 miles of branch lines closed to traffic were still included in published returns.)

Locomotives: 368 steam (including 49 tank and 18 Garratt locomotives), 62 diesel-electric, and 4 diesel or petrol.

Coaching Stock: 370 vehicles, including 70 sleeping cars, 7 dining and buffet cars, 3 lounge cars, 238 coaches, 33 diesel railcars, 18 railcar trailers, and 1 steam railcar.

Goods and Livestock Wagons: 12,333, including 2 horse boxes, 1,216 livestock wagons, and 236 brake vans. In addition, there are 735 service vehicles. Total carrying capacity of revenue-earning stock was 171,460 tons.

TRAFFIC (YEAR ENDED 30 JUNE 1956)

Passengers: Total number of journeys was 12,270,777. Suburban journeys averaging 7 miles in length totalled 11,480,958, and 789 819 country journeys averaged 105 miles in length.

Goods and Livestock: Revenue-earning traffic amounted to 3,792,856 tons hauled an average distance of 160·4 miles. "On service" traffic amounted to 730,565 tons. The principal traffics were wheat (1,062,649 tons hauled 126·2 miles) and coal, coke, etc. (520,851 tons for 151·8 miles).

ITEMS OF INTEREST

Running-Track Milage: Double line is provided over 96 miles of the 4 085-mile system.

Weight of Rails: 80 lb. per yard for 413 running-track miles; 60 lb. per yard for 1,966 miles; 50-55 lb. per yard for 24 miles; 45-46¼ lb. per yard for 1,812 miles. These figures include 34 miles of lines over which traffic was discontinued.

Maximum Axle Loadings: 14 tons on main lines; 10 tons on branch lines.

Maximum Authorised Speeds: 45 m.p.h. for passenger trains; 35 m.p.h. for goods trains (on main lines).

Maximum Moving Dimensions: Height above rail level, 12 ft. 9 in.; width, 9 ft. 0 in.

Maximum Altitude Attained: 2,137 ft. (near Paroo, 40 miles from Wiluna).

Steepest Gradients: 1 in 40.

Sharpest Curves: 12 chains radius on main lines; 7 chains radius on branch lines.

Tunnels: Only one, near Swan View, 1,115 ft. long.

Bridges: About 1,000; the longest being 1,331 ft. 6 in. across Swan River near East Perth.

Train Control and Signalling: Various systems are used on double line. Single-line working is by Webb and Thomson's Electric Train Staff or by Staff and Ticket, but C.T.C. with automatic signalling is now being installed on one 80-mile section.

Typical Main-line Locomotives

30 "X" class 1,100 h.p. 2-Do-2 type diesel-electric locomotives, 77½ tons total weight, 40 tons adhesion weight, Crossley HSTV8 diesel engine, first introduced in 1954.

20 "V" class 2-8-2 steam locomotives with 8-wheel tenders, 134·1 tons total weight, 80·7 tons engine weight, 56·7 tons adhesion weight; two cylinders 19 in. by 26 in.; coupled wheel diameter 4 ft. 3 in.; tractive effort (at 85 per cent) 33,600 lb.; introduced in 1955 for heavy main-line freight haulage.

60 "W" class 4-8-2 type steam locomotives with 8-wheel tenders, 101·1 tons total weight, 63·3 tons engine weight, 39·0 tons adhesion weight; two cylinders 16 in. by 24 in.; coupled wheel diameter 4 ft.; tractive effort (at 85 per cent) 21,760 lb.; introduced in 1951 for light-rail sections of the railway.

35 "PM" class 4-6-2 type steam locomotives with 8-wheel tenders, 109·1 tons total weight, 63·3 tons engine weight, 41·5 tons adhesion weight; two cylinders 19 in. by 26 in.; coupled wheel diameter 4 ft. 6 in.; tractive effort (at 85 per cent) 25,860 lb.; introduced in 1950 for main-line mixed-traffic service. (Developed from a design introduced in 1924.)

Rolling Stock Livery

Locomotives: Green and black.
Passenger Stock: Cream and green.
Freight Stock: Indian red (or white for cool storage and workmen's vehicles).

Train Services

Principal service is the diesel-hauled overnight *Westlander* between Perth and Kalgoorlie four days a week, connecting at Kalgoorlie with the Commonwealth Government Railways' trans-Australian service. The 380 miles between Kalgoorlie and Perth in January 1956 were allowed 13 hr. 20 min. westbound and 13 hr. 25 min. eastbound. These were accelerations of about 2½ hours compared with the previous steam-hauled service.

Another important service is the *Australind* express train making one return trip daily over the 115·2 miles between Perth and Bunbury, with just one intermediate stop. The 99·2 miles between Perth and Brunswick Junction are scheduled to be covered non-stop at 36·5 m.p.h.

Out of 1,677,017 country passenger train-miles in 1955-56, 680,843 were worked by diesel railcars, 786,477 by diesel locomotives, and 209,697 by steam locomotives.

Goods Trains

Average Gross Weight: 314 tons.
Average Net Load: 121 tons.
Train Milage: 5,310,951 (4,342,711 steam, and 968,240 diesel) ●

★ ★ ★

COMMEMORATIVE BEQUEST

Mr Sidney Hodgkinson Lowe, of Beckenham, left £500 to the Southern Railway Servants' Orphanage, Woking, "to commemorate the fact that I and my father have travelled on the said railway as season ticket holders for an aggregate period of 100 years" ●

EMPLOYEE ACCIDENT PREVENTION

What's an eye worth?

WHAT'S an eye worth? Estimates of course will vary. Quite large sums of money have been paid out in compensation in some cases of loss of sight, but to get a real assessment you should ask a man with a patch over his eye, or one walking the streets with the aid of a white stick. Or you should go to a school for the blind and ask people who, suddenly plunged into total darkness, are trying to build a new life in a strange world by using their fingers to read or to play cards with, or to do some of the many things that were so simple and natural when they could see. Their sense of values would be different from ours because it is well known that we don't appreciate what we have until we lose it. While you have two good eyes the possibility of losing the sight in one doesn't seem to matter so much – until you've lost it, and realise just how much more valuable the remaining one is. You will cherish and safeguard it, for while you have it you can still live in a familiar world. Lose it and you live in a world where sounds are exaggerated and terrifying; where once you walked in boldness and freedom, pitfalls open before your feet and you shuffle uncertainly and fearfully; the fingers whose nimble magic and precision you never wondered at fumble and feel their way clumsily; the children you have watched with pride and affection will be fixed in your mind as children and you will never see them grown-up.

But, while you cherish and safeguard your one good eye you should remember this – it is not possible to have one hundred per cent eye protection. You can minimise the risks to a point where you have perhaps ninety-five per cent, but there is always the possibility of some freakish accident that will mean, in some cases, loss of sight. Obviously then the time to start looking after that one eye is while you still have the sight of two, thereby doubling your chances of being able to read books and papers in normal print during the leisure of your retirement.

Physical protection of the eyes is the last line of defence in the prevention of injury and blindness. Wherever it is possible, machines should be guarded so that particles do not fly and visors of safety glass or perspex should be provided on equipment such as grinders. They should be kept clean and replaced as necessary, and full use should be made of them. Where they reflect the light or where for some other reason visibility through them is bad, this should be brought to the notice of supervisory officers so that appropriate action can be taken. Hand tools should be kept in good order and should be closely and frequently inspected. Such tools as cold sets and drifts are a fruitful source of injury and the heads should be kept ground so that blows from a hammer will not cause chips of steel to fly from burred edges. This is primarily the responsibility of those using the tools as being the ones most likely to suffer injury, but inspection is necessary to ensure the protection of others.

The more effectively this policy of minimising the danger at its source is carried out, the more confidently can goggles be expected to give maximum protection. Any type of goggle, or even ordinary spectacles, will give some measure of safety, but this can best be achieved by the use of properly fitted goggles or spectacles with toughened lenses. No type of goggle will be of any use unless it is worn whenever necessary. In some workshops and in some occupations this will mean all the time during working hours and not only by the particular employees concerned but by those who may have to work or pass nearby, including supervisory or controlling officers and visitors. In other cases the goggles need be worn only when specific jobs are being done. However, where goggles are supplied as a personal issue, effort should be made to develop the habit of wearing them so that they become a normal part of the working dress and you would feel, without them, as undressed and as unprotected from injury as you would working barefooted. In no other way will your eyes get the protection they need and so richly deserve.

What's An Eye Worth – It's Worth Saving!

R. E. OWEN, GOVERNMENT PRINTER, WELLINGTON, NEW ZEALAND—1957

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